

Aerosol Remote Sensing from Space – Where We Stand, Where We're Heading

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The MISR and MODIS instruments aboard the NASA Earth Observing System's Terra Satellite have been collecting data containing information about the state of Earth's atmosphere and surface for over eleven years. Among the retrieved quantities are amount and type of wildfire smoke, desert dust, volcanic effluent, urban and industrial pollution particles, and other aerosols. However, the broad scientific challenges of understanding aerosol impacts on climate and health place different, and very exacting demands on our measurement capabilities. And these data sets, though much more advanced in many respects than previous aerosol data records, are imperfect. In this presentation, I will summarize current understanding of MISR and MODIS aerosol product strengths and limitations, discuss how they relate to the bigger aerosol science questions we must address, and give my view of the way forward.